Spice in curry could prevent liver damage

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Anping Chen, Ph.D., director of pathology's research division at Saint Louis University, has found that curcumin, which is the chemical in the spice curry, may prevent or treat damage from liver fibrosis. Credit: Jan Ryerse, Ph.D.

Curcumin, a chemical that gives curry its zing, holds promise in preventing or treating liver damage from an advanced form of a condition known as fatty liver disease, new Saint Louis University research suggests.

Curcurmin is contained in turmeric, a plant used by the Chinese to make traditional medicines for thousands of years. SLU's recent study highlights its potential in countering an increasingly common kind of fatty liver disease called non-alcoholic steatohepatitis (NASH). Linked to obesity and weight gain, NASH affects 3 to 4 percent of U.S. adults and can lead to a type of liver damage called liver fibrosis and possibly cirrhosis, liver cancer and death.

"My laboratory studies the molecular mechanism of liver fibrosis and is searching for natural ways to prevent and treat this liver damage," said Anping Chen, Ph.D., corresponding author and director of research in the pathology department of Saint Louis University.

"While research in an animal model and human clinical trials are needed, our study suggests that curcumin may be an effective therapy to treat and prevent liver fibrosis, which is associated with non-alcoholic steatohepatitis (NASH)."

High levels of blood leptin, glucose and insulin are commonly found in human patients with obesity and type 2 diabetes, which might contribute to NASH-associated liver fibrosis.

Chen's most recent work tested the effect of curcumin on the role of high levels of leptin in causing liver fibrosis in vitro, or in a controlled lab setting.

"Leptin plays a critical role in the development of liver fibrosis," he said.

High levels of leptin activate hepatic stellate cells, which are the cells that cause overproduction of the collagen protein, a major feature of liver fibrosis. The researchers found that among other activities, curcumin eliminated the effects of leptin on activating hepatic stellate cells, which short-circuited the development of liver damage.

More information: The findings were published in the September issue of *Endocrinology*.

Provided by Saint Louis University